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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,274	02/25/2002	Carlos Alfonso Cruz	A01198	3671

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ROHM AND HAAS COMPANY
PATENT DEPARTMENT
100 INDEPENDENCE MALL WEST
PHILADELPHIA, PA 19106-2399

EXAMINER

ASINOVSKY, OLGA

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 06/19/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/082,274

Applicant(s)

CRUZ ET AL.

Examiner

Olga Asinovsky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 25 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carty et al U.S. Patent 4,086,296.

Claim 1 discloses a polymeric composition, comprising: a) polymerizable units derived from at least one C8 to C30 alkyl (meth)acrylate monomer, and b) at least one chain branching unit, said chain branching unit present in an amount not greater than 0.10 wt.% based on total weight of the C8 to C30 alkyl (meth)acrylate monomer, wherein said chain branching unit results in the polymeric composition having non-gelled polymer chains, and wherein said non-gelled polymer chains have a weight average molecular weight of at least 100,000 g/mol. Independent claim 9 discloses a polymer blend composition, comprising: a) at least one thermoplastic polymer resin and b) at least one polymeric composition which is the same as claimed in claim 1.

Carty discloses a blend of the thermoplastic polymer and a multiphase acrylic composite polymer comprising (A) a soft phase and (B) a rigid thermoplastic

phase, column 2, lines 20-37. A soft phase is obtained by the polymerization of monomers comprising at least one alkyl acrylate wherein the alkyl group has 1 to 18 carbon atoms, column 2, line 25. The alkyl acrylate having C8 to C18 alkyl group would be within the range specified in the present claims. A soft phase in Carty is readable in applicants' polymerizable units a) in the present claims 1 and 9. A rigid thermoplastic phase includes a thermoplastic polymerized from methyl methacrylate, acrylate, styrene, column 3, lines 50-68 and column 4, lines 17. The rigid phase has a molecular weight ranging from about 400,000, column 4, lines 50-53. The rigid thermoplastic phase is readable in applicants' claimed b) chain branching unit. A "non-gelled" characteristic for a chain branch in Carty's invention is inherent because Carty discloses a rigid thermoplastic phase having the molecular weight specified in applicants' claims. The multiphase acrylic composite polymer in Carty is readable in applicants' claimed polymeric composition. The multi-phase acrylic composite polymer in Carty is a modifier which can find utility in processing of plastics such as polypropylene, column 6, lines 24-39, for the present claim 10. The total amount of the multiphase acrylic composite interpolymer modifier can be present from about 0.1 to 25 wt.% in the blend with thermoplastic polymer, column 4, lines 59-60.

The difference between the present claims and Carty is the requirement in the present claims that a chain branched unit is present in the amount of not greater than 0.10 wt.%. It would have been obvious to one of ordinary skill in the art to consider that the amount of the rigid thermoplastic phase being not greater

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than 0.10 wt.% is obtained in Carty because a modifier in blend of a thermoplastic polymer with a multi-phase acrylic composite polymer can be selected in the low content from about 0.1, column 4, line 59.

3. Claims 1- 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brady et al U.S.Patent 6,031,047.

Brady discloses an impact-modified poly(vinyl chloride) wherein an impact modifier is a core-shell acrylic copolymer, column 1, lines 65-67 and column 2, lines 1-7. A core segment can be a copolymer of butyl acrylate with higher alkyl acrylate having the alkyl group containing C2 to C8 carbon atoms, column 2, lines 20-21. The shell can be substantially formed from methyl methacrylate alone, abstract and column 2, lines 25-30. The shell of homopolymer or copolymer containing from 50 to 90 parts of polymerized units of methyl methacrylate is readable in applicants' claimed chain branching unit in the present claim 1 and a hard polymer shell in the present claim 4. The non-gelled polymer chain would inherently be obtained in Brady's invention because the hard shell is substantially formed from methyl methacrylate alone, abstract. The core-shell structure of the acrylic modifier in Brady is readable in applicants' claims. A chemical formulation of the core-shell acrylic copolymer is readable in applicants' claims. PVC resin is readable in applicants' claim 9.

The difference between the present claims and Brady is the requirement in the present claims that the component a) polymerizable unit is derived from at least one C8 to C30 alkyl (meth)acrylate monomer. Brady discloses an alkyl acrylate having C2 to C8 alkyl group. It would have been obvious to one of ordinary skill in the art to select an acrylic monomer having the higher number C8 in the alkyl group, because in Brady's invention the alkyl group of C2 to C8 works within the same expectation of adequate result for a core acrylic formulation, and, thereby, obtain the claimed requirement.

Also, the difference between the present claims and Brady is the requirement in the present claims 1 and 9 that chain branching unit is present in an amount not greater than 0.10 wt.% based on total weight of the C8 to C30 alkyl (meth)acrylate. It would have been obvious to one of ordinary skill in the art to select in Brady's invention the content of shell polymer part in the amount of 0.10 wt.% since the content of the hard polymer shell is depending on the desired rheological properties of the polymer composition when a said polymer composition is used as an impact modifier in the blend with other thermoplastic polymer resin.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art is relevant to show the state of the art knowledge.
- 5.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga Asinovsky whose telephone number is 703-308-0041. The examiner can normally be reached on 9:00 to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 703-308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Olga Asinovsky
Examiner
Art Unit 1711

[Handwritten initials]

O.A.
June 12, 2003

[Handwritten signature]

James J. Seidleck
Supervisory Patent Examiner
Technology Center 1700